

Remarks

The Examiner rejected claims 1 and 16 due to informalities. Applicants amended claim 1 and applicable dependent claims to make micrometers singular. Claim 16 is amended to define each pore as being less than .12 micrometer.

The Examiner rejected claims 1-13 and 16-23 under 35 USC 103 as being unpatentable over 5,716,506 ("Maclay"). All claims of Applicants' application require that the second electrode have a porosity of less than 5% and a pore size less than .12 micrometer at the pore size's greatest measurement. Maclay does not disclose, teach, or suggest a porosity of less than 5% or a pore size less than .12 micrometer at the pore's greatest measurement.

Maclay is directed to increasing sensitivity by increasing an electrode's surface area. "Sensor having high surface area electrodes, and an increased sensitivity, are disclosed." See Abstract. By definition, increasing surface area of the electrodes increases porosity because surface area is increased in a sensor by roughening the surface. Viewing from the top, electrodes are not enlarged in any direction, such as diameter or width, because to do so would render microfabrication of the sensors difficult. "The present invention relates to microfabricated electrochemical sensors." Summary of Invention. "Electrodes prepared by electroplating an electrode material on a substrate, or over an existing electrode, are examples of a "high surface area electrode." The electrolyte technique provides an electrode surface that is rougher than a low surface area electrode." Col. 8, lines 30-35 (emphasis added). This is the complete opposite of Applicants' invention, which is directed to a smooth, low porosity electrode. "Electrodes prepared by depositing an evaporated electrode material on a substrate are examples of a "low surface area electrode." The deposition technique provides a very

smooth, i.e., a flat, electrode surface." Col. 7, lines 60-65. Hence, Maclay teaches away from Applicants' invention.

Because Maclay's invention teaches away from Applicants' invention and is not directed to lowering porosity, Applicants submit Maclay would not lead one skilled in the art to, and the Examiner does not cite any teaching or suggestion in Maclay, not only leap from the area of surface area to the area of porosity, but to further lead to the area of low porosity. Therefore, neither Maclay nor any other reference teaches or suggests the low porosity of less than 5% and the small pore size of less than .12 micrometer, which are required in all claims of Applicants' application. Applicants respectfully submit that an electrode with high surface area means increasing porosity of the electrode and would not be modified by one skilled in the art to arrive at Applicants' invention directed to low porosity. Such complete opposite teachings can hardly be argued to be inconsequential.

The Examiner rejected claims 24-26 under 35 USC 103 as being unpatentable over Otagawa in view of Shen. Applicants amended these claims to be dependent upon the amended claim 1 and should be allowable because claim 1 is allowable.

Based on the foregoing, Applicants submit that all pending claims are allowable over the cited references.

Respectfully submitted,



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